LRR Radio Setup on Vista and First Alert Panels

Which Operating Mode to Use With Different Types of Control Panels

Most Radios have four different modes of operation, which can be selected using the tamper switch during start-up. Which mode you use depends on what type of control panel you will connect to the radio. Table 1 indicates which modes to use with various panels.

Table 1. Operating Modes for Use with Control Panels

	ECP	Zone Mode	4204 emulation
Vista/FA with E2	X*	X	X
Vista/FA w/o E2		X	X*
Vista/FA w/o ECP Mode		X	X*
Lynx (non ECP)		X	
LynxR-i/LR2	X		

NOTE: * indicates preferred mode.

- **ECP Mode** - Contact ID communication. **(Default Mode)**

Panel must have ECP Radio feature. Radio defaults to address 3 in this mode. Reports are enabled just like CID, with any non-zero digit as a report code.
Older "Pre E2" panels have the ECP radio feature, but it is not recommended that you use this mode, as there were Supervision problems.

- **4204 Relay Emulation Mode (Can Emulate 1 or 2 4204's)** – High Speed Format.

Panel thinks it is talking to a 4204 relay board on the ECP. Radio defaults to address 1 to emulate a 4204 set to address 1 in this mode (If second 4204 is enabled in the radio, it must also be enabled in the panel as the next consecutive device address).
Relay commands are sent via data connection (ECP) from the host (VISTA/FA) panel to the Radio (does not require 4204 module). Panel is programmed to think the Radio is a 4204. Relays are programmed to throw on events of choice.

- **Zone Mode** - High Speed Format.

This mode is for use with controls that do not support LRR-ECP communication nor 4204 Relay Modules
 The module provides six input zones
 Each zone can be configured for +V, -V, or EOLR triggering
 Each zone can be programmed for inverted operation, delayed reporting, and restoral reporting
 Zone 1 input can distinguish between pulsed and steady signals and report fire or burglary alarms respectively
 Zone 1 can also be programmed to report Lynx panic (if used with Lynx control)
 Reports are sent in ADEMCO High-Speed format

(Non-E2 Panels)
Vista 10, Via 30/P, Vista 10SE/30PSE before Rev 15, Vista 20, Vista20SE before Rev 12, FA140, FA150, and FA160.

Programming the Panel in the **4204 Emulation Mode**
***25 WIRED EXPANSION/RELAY USED =** [3] Select 3 for 4204 emulation mode.
0 = none; 1=4219; 2=4229; 3=4204
***80 OUTPUT RELAYS** Example:
Relay 01 = Stay Closed on 39 (Any Fire) Stop on Disarm or Bell Timeout
Relay 02 = Stay Closed on 06 (Silent Panic) Stop on Disarm or Bell Timeout
Relay 03 = Stay Closed on 33 (Any Burg) Stop on Disarm or Bell Timeout

(E2 Panels)
VISTA-10SE, VIA-30PSE, FA142C, FA145C and VISTA-10ADTG

Programming the Panel **in ECP Mode**
***27 OUTPUT TO LONG RANGE RADIO =** [1] 0 = no; 1 = yes.
If yes selected, dialer reports to PRIMARY No. (field Q47) will also be sent via LRR. All dialer and LRR reports will be in Contact ID format.
***48 BURG DIAL DELAY** = Applies to whatever form of communication is going first in DSP.
***93 DYNAMIC SIGNALING** [3] [0] program as desired
1ST digit: Dynamic Signaling Delay (DSD) 0 - 15 times a 15-second delay; e.g. 1 =15 seconds, 2 = 30 seconds, **3 = 45 Seconds (Recommended)** etc.
2nd digit: Dynamic Signaling Priority (DSP) 0 = primary dialer first; 1 = Long Range Radio (LLR) first.

FA147C
Programming the Panel in ECP Mode
***27 OUTPUT TO LONG RANGE RADIO =** [1]
0 = disable; enable with any digit. If reporting in format other than CID, entry is Radio Trouble code 1st digit, the 2nd digit of Trouble Report is automatically entered from field * 60 second digit.
***41= PRIMARY PHONE** – If sending Radio Only, must have at least 1 digit in this field even though dialer/phone line is not being used. If no digits are entered, radio will not transmit.
***48 BURG DIAL DELAY** = Applies to whatever form of communication is going first in DSP.
***54 DYNAMIC SIGNALING DELAY (DSD)** [3] program as desired
0-15 times a 15-second delay; e.g. 1 = 15 seconds, 2 = 30 seconds, **3 = 45 Seconds (Recommended)** enter #15 for Radio Only.
***55 DYNAMIC SIGNALING PRIORITY (DSP)** [0] program as desired
0 = primary dialer first; 1 = Long Range Radio (LLR) first.
***56 =** Must have reporting codes enabled in zones.

LynxR and LynxR24

Radio must be in Zone Mode

***91 LRR Trigger** = 0 for Long Range Radio Trigger, or = 2 for Long Range Radio Trigger and Remote phone. The panel will give a steady negative trigger on terminal 8 of the control when a burglary occurs, 3-4 second pulse if any silent alarm or Duress is activated and temporal pulsing when a fire alarm is activated.

VISTA-15, FA148C, 250P1

Programming the Panel in **ECP Mode**

***29 OUTPUT TO LONG RANGE RADIO =** [1] 0 = no; 1 = yes.

If yes selected, dialer reports to PRIMARY No. (field Q46) will also be sent via LRR. All dialer and LRR reports will be in Contact ID format.

***48 BURG DIAL DELAY** = Applies to whatever form of communication is going first in DSP.

***79 DYNAMIC SIGNALING** [3] [0] program as desired

1ST digit: Dynamic Signaling Delay (DSD) 0 - 15 times a 15-second delay; e.g. 1 =15 seconds, 2 = 30 seconds, **3 = 45 Seconds (Recommended),** etc.

2nd digit: Dynamic Signaling Priority (DSP) 0 = primary dialer first; 1 = Long Range Radio (LLR) first.

VISTA-20SE, VISTA-20HWSE, FA162C, VISTA-20ADT, VISTA-20Bay, SL150

Programming the Panel in **ECP Mode (E2 Versions)** Pre E2 should use 4204 Mode

***29 OUTPUT TO LONG RANGE RADIO =** [1]

0 = disable; enable with any digit. If reporting in format other than CID, entry is Radio Trouble code 1st digit, the 2nd digit of Trouble Report is automatically entered from field * 60 second digit. All dialer reports to PRIMARY No. (field Q49) will also be sent via LRR. All dialer and LRR reports will be in Contact ID format.

***50 BURG DIAL DELAY** = Applies to whatever form of communication is going first in DSP.

***54 DYNAMIC SIGNALING DELAY (DSD)** [3] program as desired

0 - 15 times a 15-second delay; e.g. 1 = 15 seconds, 2 = 30 seconds, **3 = 45 Seconds (Recommended),** etc.

***55 DYNAMIC SIGNALING PRIORITY** (DSP) [0] program as desired

0 = primary dialer first; 1 = Long Range Radio (LLR) first.

VISTA-10P/15P/20P Series controls

Programming the Panel in **ECP Mode**

***29 OUTPUT TO LONG RANGE RADIO =** [1]

0 = disable; enable with any digit. If reporting in format other than CID, entry is Radio Trouble code 1st digit, the 2nd digit of Trouble Report is automatically entered from field * 60 second digit. All dialer reports to PRIMARY No. (field Q49) will also be sent via LRR. All dialer and LRR reports will be in Contact ID format.

***48 BURG DIAL DELAY** = Applies to whatever form of communication is going first in DSP.

***54 DYNAMIC SIGNALING DELAY** (DSD) [3] program as desired

0 - 15 times a 15-second delay; e.g. 1 = 15 seconds, 2 = 30 seconds, **3 = 45 Seconds (Recommended),** etc.

***55 DYNAMIC SIGNALING PRIORITY** [0] program as desired

(DSP) 0 = primary dialer first; 1 = Long Range Radio (LLR) first.

High End

Vista-40, FA1220C, Vista-50, FA1340C, Vista-50P and Vista-100 (Non-ECP Panels)

Programming the Panel in **4204 Emulation Mode**

#93 Menu Mode Programming, Device Programming
DEVICE ADDRESS 01 (Default)
DEVICE TYPE Select 4 = output relay module

#93 Menu Mode Programming, Output Relay Programming
Example:

Relay 01 = Stay Closed on 39 (Any Fire)	Stop on Disarm or Bell Timeout
Relay 02 = Stay Closed on 06 (Silent Panic)	Stop on Disarm or Bell Timeout
Relay 03 = Stay Closed on 33 (Any Burg)	Stop on Disarm or Bell Timeout

VISTA-128B-1.3, VISTA-128FB-2.4, VISTA-32FB-1.4, and FA1600-6.4

(All the Revs listed or higher) previous revs had supervision issues and ECP mode is not recommended, recommend 4204 Mode as described on Vista 40.

Programming the Panel in **ECP Mode (Must use Device address 03(default))**

Revs before Dynamic Signaling need these fields programmed:

- ***56 USE ONLY LONG RANGE RADIO** 0 = No, 1=Yes, if built-in dialer will not be used.
- ***57 USE LRR IF DIALER FAILS** 0 = No, 1=Yes, if radio is to be used as a backup to dialer.

Revs that include Dynamic Signaling need these fields programmed:

- ***56 DYNAMIC SIGNALING DELAY** 00 = No Delay, Select delay time (00 – 15) times 15 Seconds before sending to second destination.
- ***57 DYNAMIC SIGNALING PRIORITY** 0 = Primary Dialer, 1 = Radio as first communication

All Revs need these fields programmed:
***32 PRIMARY ACCT # -** REQUIRED
***58 LRR CENTRAL STATION #1** [0] [0] [0] [0] [0] [0]
CATEGORY ENABLE Alrm Trbl Byp O/C Syst Tst
0=disable, 1=enable for reports for primary subs id of LRR.
***59 LRR CENTRAL STATION #**2 [0] [0] [0] [0] [0] [0]
CATEGORY ENABLE Alrm Trbl Byp O/C Syst Tst
0=disable, 1=enable for reports for secondary subs id of LRR.
***84 SWINGER SUPPRESSION:** The Radio will be shut down just like the dialer for swinger suppression.
1*34 SPLIT REPORTING [0] – Only events going to Primary number go to the Radio
2*20 LRR Trigger enable [1] Must be enabled or ECP signals will not be sent to the radio.
3*21 DIALER ATTEMPTS (Fire Panels) [3] Must be set for 3 or higher if Radio is set up as Backup.
3*30 DIALER ENABLE (Fire Panels) [1] [0] Enabling the Main Dialer also enables the Radio, Backup dialer is optional.

#93 Menu Mode Programming
DEVICE PROG – DEVICE #03 - Device type 6 (LRR Radio)
ZONE PROG - (**optional** Radio Trouble Zone on panel) ZN NO. 803 for ECP Radio Supervision, Zone type 19 or 05 with an alarm and trouble report code.

VISTA-250BP, VISTA-250FBP, VISTA-128BP, VISTA-128FBP, VISTA-32FBP, VISTA-50PEN, and FA1660C, FA1670C, FA1700C

Programming the Panel in **ECP Mode (Must use Device address 03(default))**

***32 PRIMARY ACCT # -** REQUIRED
***56 DYNAMIC SIGNALING DELAY** 00 = No Delay, Select delay time (00 – 15) times 15 Seconds before sending to second destination.

***57 DYNAMIC SIGNALING PRIORITY** 0 = Primary Dialer, 1 = Radio as first communication
***58 LRR CENTRAL STATION #1** [0] [0] [0] [0] [0] [0]
CATEGORY ENABLE Alrm Trbl Byp O/C Syst Tst
0=disable, 1=enable for reports for primary subs id of LRR.
***59 LRR CENTRAL STATION** #2 [0] [0] [0] [0] [0] [0]
CATEGORY ENABLE Alrm Trbl Byp O/C Syst Tst
0=disable, 1=enable for reports for secondary subs id of LRR.
***84 SWINGER SUPPRESSION:** The Radio will be shut down just like the dialer for swinger suppression.
1*34 SPLIT REPORTING [0] – Only events going to Primary number go to the Radio
3*21 DIALER ATTEMPTS (Fire Panels) [3] Must be set for 3 or higher if Radio is programmed as Backup.
3*30 DIALER ENABLE (Fire Panels) [1] [0] Enabling the Main Dialer also enables the Radio, Backup dialer is optional.

#93 Menu Mode Programming
DEVICE PROG – DEVICE #03 - Device type 6 (LRR Radio)
ZONE PROG - (**optional** Radio Trouble Zone on panel) ZN NO. 803 for ECP Radio Supervision, Zone type 19 or 05 with an alarm and trouble report code.

High End Panel Trouble Messages:

Trouble Messages

The following messages are displayed on the 6139/6160 when a problem exists on the Long Range Radio:

1. "LRR Battery": The battery connected to the radio is low.
2. "PLL out of Lock": The radio has an internal fault and cannot transmit any messages.
3. "Early Power Detect": RF power is detected without a valid transmission.
4. "Power Unattained": Full RF power was never attained.
5. "Frwd. Power Loss": RF power was not sustained throughout the transmission.
6. "Antenna Fault": A problem with the antenna has been detected.
7. "LRR CRC is bad": The radio's EEPROM is corrupt (the internal CRC is bad).

NOTES:

Items 2 and 3 require factory service.

Items 4 and 5 could be the result of a bad or low battery.

If the item 6 message appears, check the antenna, connection and cable; if they are secure, factory service is required.

All these messages are displayed in conjunction with the "CHECK 8xx" message, which indicates a trouble on the address to which the LRR unit is programmed in the control.

All of these events except Antenna Fault are sent to the event log and reported to the central station using Contact ID Event Code 333 (expansion device trouble). Antenna Fault uses Event Code 357. If the tamper is tripped on the LRR, it uses Event Code 341 (expansion device tamper).

7845i Internet Radio

The 7845i set up is exactly the same as the 7845GSM as far as the panel is concerned. The panel can't tell what kind of radio it is, it is just giving it the data. The 7845i transmits over the internet, instead of cellular. The 8142 and 8132 Symphony keypads have a 7845i radio built in, it has it's own programmable ECP address, separate from the keypads. On panels that support AUI, the 7845i radio can be used instead of a Symphony keypad, to control all system functions remotely from any WEB browser (with optional AlarmNet service). The next versions of the Symphony keypads will be available with or without the 7845i built in, to save cost.

ECP Status Codes

When the 7845GSM is configured for ECP mode, it sends status messages to the control panels for battery, power, tamper, and network connectivity failures. Some of the control panels, (e.g., VISTA-10P, VISTA-15P and VISTA-20P Series) display these on the keypad as “LngRng Radio” followed by a 4-digit code. In addition, the Contact ID codes for these conditions are sent to the central station by the module.

ECP Keypad Displays Status Codes

STATUS CODE DESCRIPTION

0000 Control panel lost communication with 7845GSM.
0880 7845GSM tamper detected (cover removed).
0005 7845GSM has lost contact with AlarmNet-G network.
000F 7845GSM is not registered; account not activated.
0019 7845GSM shutdown.
0400 7845GSM power-on reset AND the control panel lost communications with the Radio
0C80 7845GSM power on reset AND tamper detected.
0C8F 7845GSM power on reset AND tamper detected AND not registered.
08E0 7845GSM tamper detected and 7845GSM battery low.
3000 Primary power loss (will only be displayed in conjunction with another event).
8000 Battery charger failure (will only be displayed in conjunction with another event).
0060 Low battery (will only be displayed in conjunction with another event).

Central Station Messages

The following messages are sent by the 7845GSM module for the conditions listed below.

Alarm Condition	ECP Mode Alarm Code	ECP Mode Restore Code	Zone and 4204 Modes Alarm Code	Zone and 4204 Modes Restore Code
Power On Reset	E339 C08xx*		5551 5555 6	
Tamper	E341 C08xx*	R341C 08xx*	5555 5551 7	5555 5553 7
Power Loss	E337 C08xx*	R337 C08xx*	1555 5555 6	3555 5555 6
Low Battery	E338 C08xx*	R338 C08xx*	5155 5555 6	5355 5555 6
Battery Charger Failure	E314 C08xx*	R314 C08xx*	5155 5555 1	5355 5555 1
ECP Supervision	E355 C0000	R355 C0000	5555 5515 5	5555 5535 5
Communication Path Supervision		R350 C0951		5555 5553 5
Swinger Suppression			0D00 0005 0	
Telco			5555 5155 6	5555 5355 6
Open/Close			2 sent in selected zone	4 sent in selected zone
Test	5555 5555 9		5555 5555 9	

* xx = 7845GSM Device Address

The control panel sends its own general code (E353) for a trouble condition.

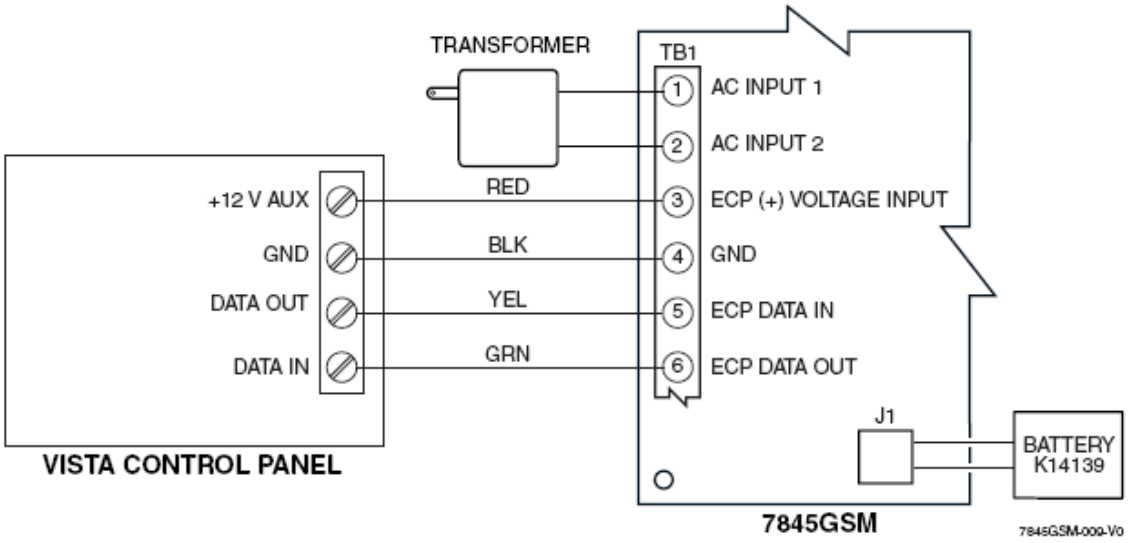

Figure 2. Wiring a VISTA for ECP Mode or 4204 Modes

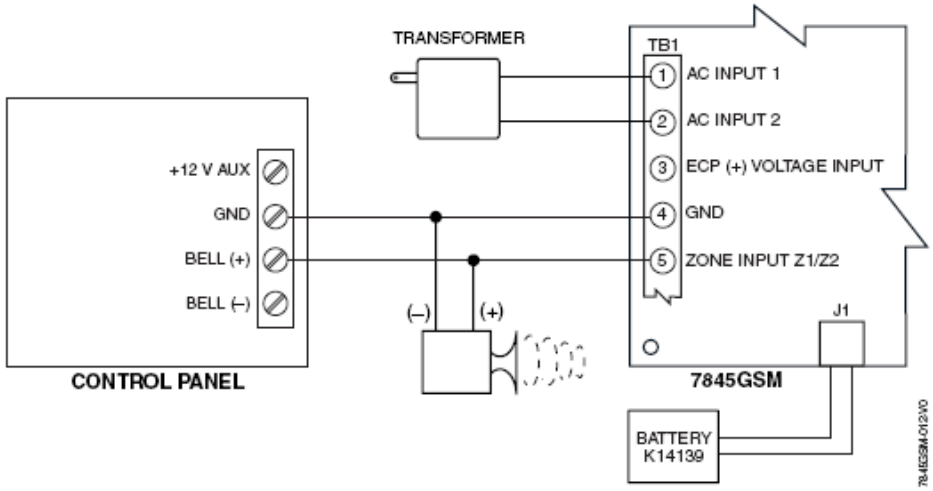

Figure 4. Wiring the 7845GSM Zone 1 Input for a Positive (+) Triggered Bell Output

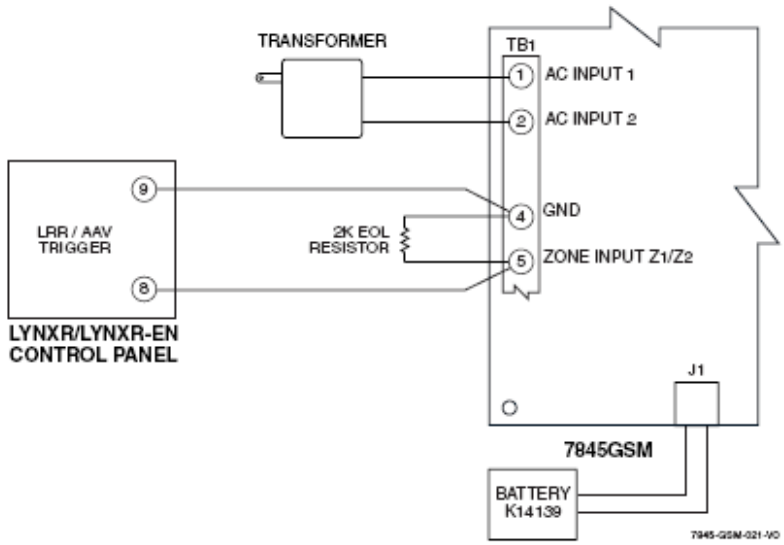

Figure 6. Wiring the 7845GSM Zone 1 Input to a LynxR Trigger Output

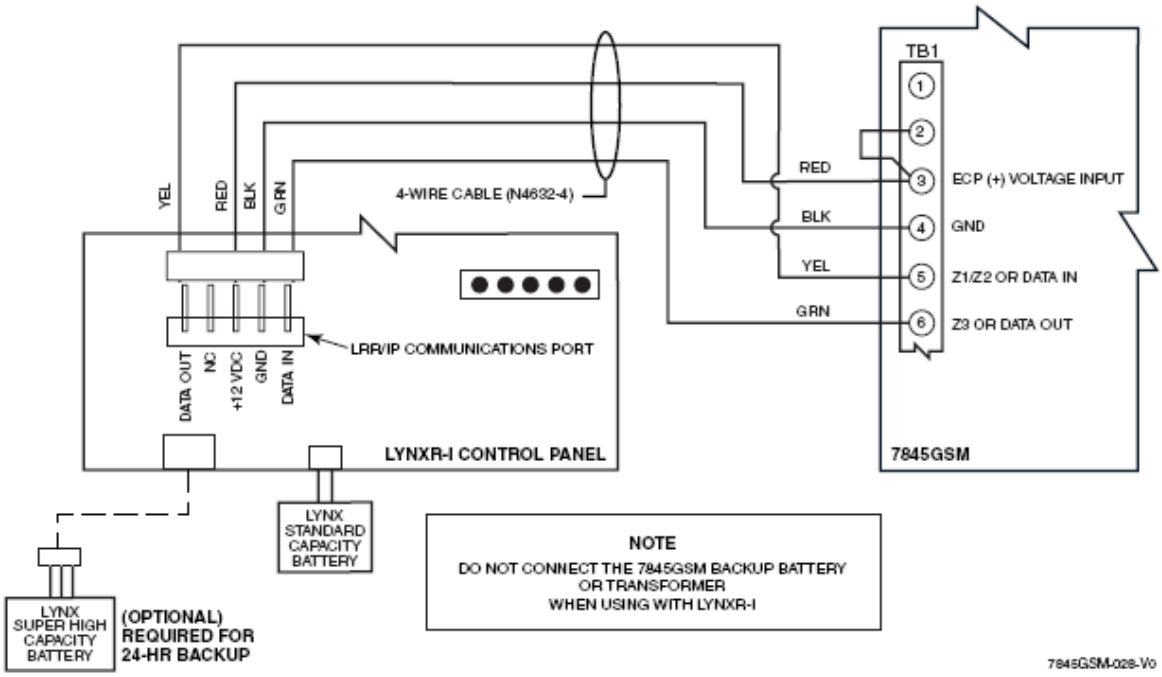

Figure 3. Wiring a LynxR-I for ECP Mode